

# The impact of sociodemographic factors on the utilisation of support services for family caregivers of elderly dependents – results from the German sample of the EUROFAMCARE study

## Sozio-demografische Einflussfaktoren auf die Inanspruchnahme von Entlastungsangeboten für pflegende Angehörige älterer Menschen – Ergebnisse aus der EUROFAMCARE-Studie

### Abstract

**Objectives:** As in nearly all European countries, demographic developments in Germany have led to both a relative and an absolute increase in the country's elderly population. The care and support needed by these people is primarily provided by relatives or friends and close acquaintances within the home environment. The major challenges for society are to sustain, promote and support these informal resources. In order to achieve this, it is crucial that family caregivers are provided with situation-specific services that support them and relieve their burden of care. The major challenges for society are therefore to sustain, promote and support informal resources and to provide the opportunity for the use of services aimed at assisting and relieving the burden of family caregivers.

**Methods:** In the context of the EUROFAMCARE study, 1,003 family caregivers from Germany were interviewed at home about their experiences using a standardized questionnaire. Included in the study were primary caregivers providing at least four hours of personal care or support per week to a relative aged 65 years or older. Subjects solely providing financial support were excluded. In this paper, a linear regression analysis has been conducted to analyse impact of sociodemographic factors on the utilisation of support services.

**Results:** The family caregivers were 54 years on average (SD=13.4), 76% of them were female. The dependent elderly were 80 years on average (SD=8.3), and 69% of them were women. 60% of them were receiving long-term care insurance benefits. Use of support services aimed directly at family caregivers is very low. After including certain services aimed primarily at those in need of care but also often serving as a source of relief for family caregivers, the percentage of caregivers using support services increased slightly. Among sociodemographic characteristics, caregivers' gender and education level have the greatest influence on services use. Other influential factors are caregivers' perception of their caregiving burden and their assessment of the dependent family member's need for assistance and support.

**Keywords:** health services utilization, family caregivers, enabling factors, predisposing factors, need factors, behavioral model of health services use

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### Zusammenfassung

**Einleitung:** Wie in vielen europäischen Ländern führt der demografische Wandel auch in Deutschland zu einer relativen und absoluten Zunahme älterer Menschen. Die notwendigen Pflegeleistungen werden vorwiegend

durch Familienangehörige, Freunde oder nahe Bekannte im häuslichen Umfeld erbracht. Häufig stellt diese Aufgabe für die pflegenden Angehörigen sowohl physisch wie auch psychisch eine hohe Belastung dar. Dabei zeichnet sich die Tendenz ab, dass nicht nur das Alter der Pflegebedürftigen, sondern auch das der pflegenden Angehörigen und somit auch deren Erkrankungsrisiko steigt.

Die Pflege in der häuslichen Umgebung möglichst lange aufrecht zu erhalten, entspricht nicht nur dem Wunsch der meisten Gepflegten, sondern ist angesichts der enormen Kosten auch eine sozialpolitische Zielsetzung. Um dies zu ermöglichen, sind Entlastungs- und Unterstützungsangebote für pflegende Angehörige von großer Bedeutung. Die gesellschaftliche Herausforderung besteht darin, diese Angebote und ihre Inanspruchnahme zu erhalten, zu fördern und die informellen Ressourcen zu stärken.

**Methodik:** Das EU-geförderte Projekt EUROFAMCARE gibt einen Überblick über die Situation pflegender Angehöriger älterer Menschen im Hinblick auf Verfügbarkeit, Bekanntheit, Inanspruchnahme und Akzeptanz von Angeboten, die zur Unterstützung und Entlastung beitragen können. In Deutschland wurden 1.003 persönliche Gespräche mit pflegenden Angehörigen durchgeführt. Die befragten Personen mussten die Hauptpflegeperson sein und mindestens 4 Stunden pro Woche einen älteren Angehörigen (65 Jahre oder älter) pflegen oder betreuen. Zur Datenerhebung diente ein standardisierter Fragebogen (Common Assessment Tool, CAT). In diesem Artikel wurden lineare Regressionsanalysen durchgeführt und Faktoren identifiziert, die sich auf Unterschiede in der Pflegeorganisation und Inanspruchnahme von unterstützenden Diensten beziehen, unter besonderer Berücksichtigung von Alter, Geschlecht und sozioökonomischen Status.

**Ergebnisse:** Das Durchschnittsalter der Pflegenden betrug 54 Jahre ( $s=13,4$ ); 76% waren weiblich. Die pflegebedürftigen Personen waren im Durchschnitt 80 Jahre alt ( $s=8,3$ ), und 69% waren Frauen. 60% der Hilfs- und Pflegebedürftigen bezogen Leistungen aus der Pflegeversicherung. Eines der zentralen Ergebnisse der Studie ist eine insgesamt geringe Inanspruchnahme von Entlastungs- und Unterstützungsangeboten für Pflegende. Sie variiert sehr stark innerhalb der verschiedenen Gruppen pflegender Angehöriger und unterscheidet sich je nach spezifischer Pflegesituation. Unterschiede der Pflegeorganisation lassen sich beispielsweise in verschiedenen Altersgruppen der Befragten feststellen. Ebenso variiert die Inanspruchnahme von Diensten bei pflegenden Männern und Frauen.

Die Möglichkeiten sich über Unterstützungsangebote zu informieren und diese bei Bedarf in Anspruch zu nehmen, hängen mit den verfügbaren Ressourcen, die aus der sozialen Lage resultieren, zusammen. Vor allem haben Geschlecht und Bildung einen Einfluss auf die Inanspruchnahme von Unterstützungsleistungen. Als weitere Einflussfaktoren wurden die subjektiv empfundene Belastung der Pflegenden sowie der Unterstützungsbedarf der Pflegebedürftigen identifiziert.

## Introduction

As in nearly all European countries, demographic developments in Germany have led to both a relative and absolute increase in the country's elderly population. Reasons for this trend include increased life expectancy thanks to lower infant mortality rates, medical advancements, overall better living conditions in terms of nutrition and hygiene, and lower birth rates resulting in steadily increasing old-age dependency ratios. Germany's age dependency ratio (the ratio between the retirement-age

population and the working-age population) is currently around 34%, but is projected to increase to 62% in 2040 and 67% in 2060 [1]. (The German Federal Statistical Office (*Statistisches Bundesamt*) defines "working age" as 20–64 when calculating the old-age dependency ratio. Other population calculations in other countries often use an age range of 15–64 years.)

Increasing longevity and an aging population mean an increase in both the number of elderly citizens in need of long-term care and the length of time between when care is initially needed and death. In Germany, the num-

ber of people in need of long-term care is predicted to increase from 2.34 million in 2009 to 3.4 million in 2030. At the same time, the number of people over 80 is expected to nearly double from 3.6 million to an estimated 6.3 million [2], [3].

Both in Germany and the rest of Europe, the care and support needed by these people is primarily provided by relatives or friends and close acquaintances within the home environment [4]. As numerous studies have shown, these responsibilities are often sources of great physical and mental burdens for caregivers [5], [6]. Caring for elderly people with cognitive impairments, in particular, places extraordinary demands on caregivers and takes a significant toll on their health [7], [8], [9], [10], [11], [12]. Those with multimorbidity or a form of dementia, often require full-time, round-the-clock care. At the same time, it seems that not only the age of those in need of care is increasing; there has also been an increase in the age of the relatives caring for them [13], [14]. Because of their age, these older caregivers are more liable to become ill themselves. However, younger caregiving family members who are still gainfully employed are also often faced with multiple burdens when forced to juggle work, caregiving and family responsibilities.

In Germany, 69% of all people in need of long-term care are cared for at home [3]. In over 90% of these cases, care and assistance are provided by family members. 71% of home care provided by family is provided by the family alone; that is, without the help of professional care services. Only 29% of family home care arrangements involve the use of such services [3]. Most family caregivers are women, especially daughters and daughters-in-law. However, the number of male caregivers is rising. Whereas in 1991, men represented a mere 17% of primary caregivers, the proportion of male caregivers increased to 27% in 2002 [15] and, according to data from the German Socioeconomic Panel, has reached 35% in 2008 [16]. As most male caregivers tend to be caring for their elderly wives, they themselves are already advanced in age at the time of caregiving, an age which statistically far surpasses the average age of female caregivers [16]. Most care recipients wish to be cared for at home for as long as possible. Given the enormous costs associated with residential care, this is also a goal of social policy and of long-term care insurance. In order to achieve this, it is crucial that family caregivers are provided with situation-specific services that support them and relieve their burden of care. Unfortunately, however, family caregivers usually take more care of their needy relatives than of themselves, and as a result, often put off or fail to make timely use of health promotion, prevention and relief services for their own well-being. A mere one-third of all family caregivers turn to ambulatory services for support [17], [18].

Informal caregiving networks, on the other hand, have been gaining in significance and the development of more need-based services is becoming increasingly important for at-home care. The major challenges for society are therefore to sustain, promote and support informal re-

sources and to provide the opportunity for the use of services aimed at assisting and relieving the burden of family caregivers. Consequently, the main social policy goals of the current German long-term care insurance reform are to promote self-help, civic engagement and the balance between career and caregiving. The reasons for this are obvious. Caregivers who experience less of a burden and less of a decrease in their income and pensions provide care longer at home. Since the main reasons for care facility placement are that primary caregivers feel overburdened and/or experience problems with their own health, reducing caregiver burden may even make it possible to shorten the length of a stay in a care facility or avoid a stay altogether [9], [19], [20].

This is particularly true for family caregivers of those with dementia. Various studies have demonstrated the positive effects of counselling and training programs for family caregivers, including a significant delay in care facility placement [21], [22], [23]. The length of time caregivers were able to provide care at home was up to twice as high as in the studies' control groups. Other positive effects of such programs include less mental stress and improved health knowledge among family caregivers as well as improvements in the mood of those suffering from dementia – though not in the burden on caregivers [24].

## Objectives

The EUROFAMCARE project provides an overview of the situation of family caregivers of elderly dependents in Europe in terms of the existence, awareness, availability, use and acceptance of support services. (The EUROFAMCARE project was funded by the EU (contract no.: QLK6-CT-2002-02647) and coordinated by the Department of Medical Sociology, Social Medicine and Health Economics at the University of Hamburg (<http://www.uke.de/eurofamcare/>)).

The project comprised two large substudies. As part of one substudy, national background reports on the current situation of family caregivers were generated in 23 European countries based on secondary data analyses. For the other, approximately 1,000 family caregivers were surveyed in each of six countries (Germany, Greece, Italy, Poland, Sweden and the United Kingdom) considered representative of the different cultural and welfare systems in Europe.

In this paper, we analyse the utilization of professional support services regarding the impact of different socioeconomic factors of family caregivers on service utilization. We distinguish between services that directly address the cared-for persons' needs (e.g. ambulatory services, meals on wheels etc.) and those services which aim to support the care-givers directly (e.g. counselling services, training courses in caring etc.).

## Methods

### Sampling

In 2004, 5,923 family caregivers from the six countries named above were interviewed at home about their experiences. Included in the study were primary caregivers providing at least four hours of personal care or support per week to a relative aged 65 years or older. Subjects solely providing financial support were excluded. The unique aspect of the study's sampling approach was that family caregivers were recruited directly and not through those in need of care and assistance themselves, thereby avoiding preselection bias based on the particular care needs or level of dependency ("care level") of care recipients.

Data were collected using a mixed recruitment strategy. Various means of contacting potential interview partners were chosen including making contacts through social and health services, physicians, pharmacies and Alzheimer's associations, advertisements in newspapers, and word of mouth. The decision for this sampling procedure was based on cultural and religious aspects and the fact that services on offer are diverse in different regional sites. The spectrum of recruitment strategies should be as broad as possible to ensure that all types of care situations would be found in our sample. For this purpose, all EUROFAMCARE partners agreed to employ a common saturation method, aimed at reaching the universe of family carers living either at least in pre-defined chosen sample communities or if possible nation-wide by parallel or consecutive application of any suitable recruitment strategy covering the three regional types: "metropolitan", "urban" and "rural" areas.

The interviews were conducted by both interviewers from our university centres and a social research institute with a nationwide network of interviewers to achieve a population-based sample. In the end, the interviewers were able to achieve a total sample size of 1,003 family caregivers [25]. The comparison of the sociodemographic indicators, the care situations and the caregiver and care recipient characteristics of the German EUROFAMCARE data with those of the representative MUG III Study of 2002 ("Potential and Limitation of Independent Living in Private Households in Germany") [15] showed strong consistencies in both studies [25].

### Measures

When developing the survey questionnaire, the preference was to use scales that had already proven reliable and valid in international studies. To systematically assess care recipients' need of support, instruments from the Geriatric Assessment were used [14], [26]. ADL status (Activities of Daily Living), for example, was measured with the Barthel Index [27]; IADLs (Instrumental Activities of Daily Living) were measured using selected items from the OARS (Older American Resources and Services Questionnaire; [28]). Cognitive impairments were as-

sessed through questions asking whether the dependent has memory problems or has been diagnosed with dementia. Data on behavioural disturbances were collected using one item from the three-item short version of the BISID (Behavioural and Instrumental Stressors in Dementia; [29]).

Caregiver burden was measured using the COPE Index, which is available in several different languages and contains three subscales – one assessing the negative impact of caregiving, one assessing the positive value of caregiving and one assessing the perceived quality of the support received during caregiving [26], [30], [31]. Information on caregiver well-being and subjective quality of life were obtained using the World Health Organization-5 Well-Being Index [32], [33] and two items from the SF-36 (Health-Related Quality of Life; [34]).

### Data entry and analyses

Data entry was performed using Data Entry™ 3.0 and analysed using SPSS™ 18 (PASW™ 18). To better determine which factors have an influence on family caregivers' use of support services, a linear regression analysis with stepwise procedure was conducted. The variables for calculating the regression analysis were chosen according to the "Behavioral Model of Health Services Use" [35], a theoretical framework which is used as common base for all empirical analyses within the scientific network project "Utilization of health-related services in Germany – theoretical approaches, methods and empirical results in medical sociology" (NWIN). Babitsch, Gohl and von Lengerke (in this issue) [36] give a more detailed description of this model. The selected variables should meet certain criteria to reflect contextual and individual *predisposing, enabling* and *need factors* that influence the service usage [35]. Thus, the variables should characterize both the family caregivers and the care situation to get a comprehensive picture of the care settings. The variables included in the model are shown in Table 1.

Caregiver household income was not included in the analyses because of too many missing responses for that variable and lack of adequate imputation criteria for a flawless substitution of these missing data.

## Results

The following section presents the results of the interviews carried out with the 1,003 family caregivers in the Germany substudy.

### Description of the German sample

Three quarters of the interviewed family caregivers were women (76%); and despite a relatively high average age of 54 years a large portion of 42% was working, – of those an average of 32 hours per week. The elderly care recipients were 80 years on average, and 69% of them were women. Although 72% of the family caregivers considered

**Table 1: Variables included in the model and their related Andersen categories**

| <b>Variables characterizing the family caregivers</b>   |                          |
|---|--------------------------|
| <b>Variable</b>   | <b>Andersen Category</b> |
| Age of the family caregiver   | Predisposing             |
| Gender of the family caregiver (0=male, 1=female; reference: male caregiver)  | Predisposing             |
| Job demands (work hours) per week (in hours)  | Predisposing             |
| Restrictions in employment as a result of caregiving  | Predisposing             |
| Level of education attained by the caregiver (low, mid and high, included as three dummy variables)                           | Enabling                 |
| Subjectively perceived burden of care (COPE Index, higher score=heavier burden)   | Need                     |
| Subjectively perceived positive effects of caregiving (COPE Index, higher score=more positive perception)                     | Enabling                 |
| <b>Variables characterizing the care situation</b>  |                          |
| Time spent on caregiving per week (in hours)  | Need                     |
| Care recipient's need of assistance and support as subjectively assessed by the caregiver (higher score=greater need of care) | Need                     |
| Length of caregiving in month (time since the caregiver took on caregiving responsibilities)                                  | Need                     |

**Table 2: Sample characteristics of the German sample**

| <b>Characteristic</b>              | <b>Percentage / Mean</b> | <b>Standard Deviation</b> |
|------------------------------------|--------------------------|---------------------------|
| Total caregivers                   | N=1,003 (100%)           |                           |
| Female caregivers                  | 76%                      |                           |
| Female cared-for elderly           | 69%                      |                           |
| Average age of caregiver           | 53.8 years               | 13.4 years                |
| Average age of cared-for elderly   | 79.7 years               | 8.3 years                 |
| Elderly with classified care-level | 60% (n=602)              |                           |
| thereof Care-Level 1               | 33%                      |                           |
| thereof Care-Level 2               | 42%                      |                           |
| thereof Care-Level 3               | 25%                      |                           |
| Memory problems (undiagnosed)      | 22%                      |                           |
| Diagnosed dementia                 | 34%                      |                           |

their elderly dependents to be in moderate to severe need of assistance (operationalised by limitations in ADLs and IADLs), only just 60% of these dependents were receiving long-term care insurance benefits. (Long-term care insurance is a type of social insurance which covers the risk of a need for care. The majority of the German population has statutory long-term care insurance coverage. In the event that care is needed, covered individuals may obtain cash benefits for the “informal” caregivers and/or benefits in kind like professional care from the long-term care insurance funds. However, eligibility depends on the level of need for care. Following an assessment to determine an individual's level of dependency, he or she is then

classified under one of three levels of care need (CLs, see German Social Law Book SGB XI, §14 for the definition of care levels.) Of these, 33% were classified as care level (CL) 1, 42% as CL 2, and 25% as CL 3. In a good 30% of cases, benefits had not yet been applied for, and in approximately 10% of cases, the application had been rejected or was still being processed [25]. 34% of care recipients had been diagnosed with dementia, and another 22% had memory problems, which had however not (yet) been formally diagnosed (see Table 2).



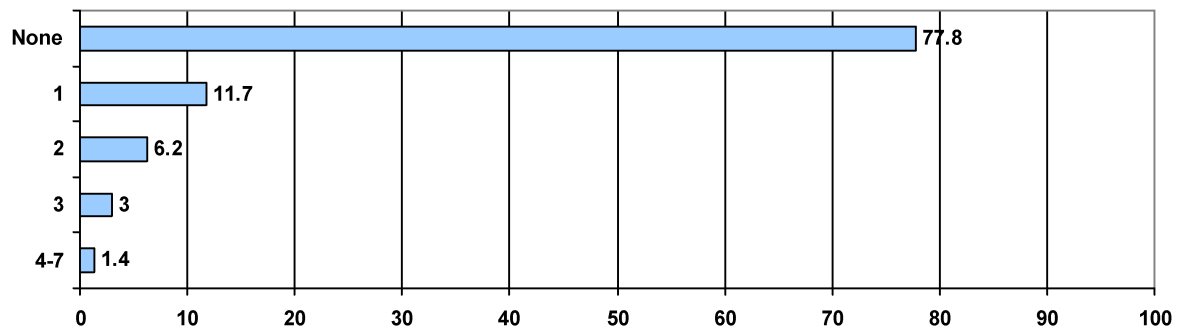


Figure 1: How many special services for family caregivers are being used? (number of services specifically for caregivers, in %, N=1,003)

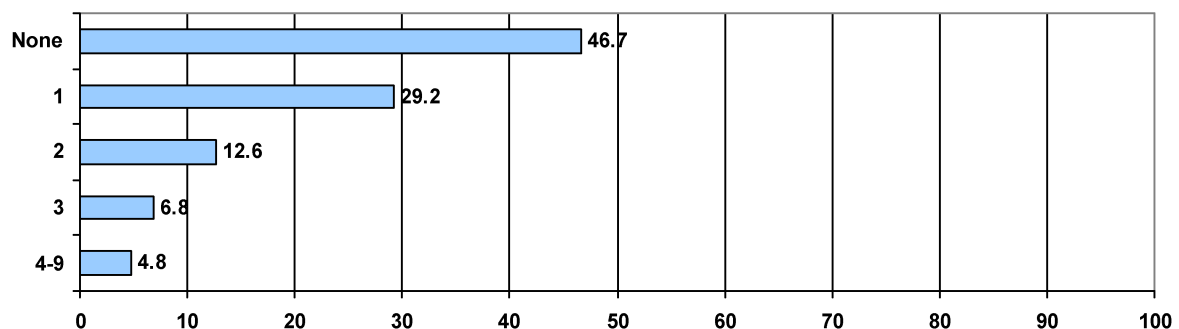


Figure 2: How many services that ease the burden of care are being used by family caregivers? (both number of services for caregivers and number of services for those in need of care, in %, N=1,003)

## Utilisation of professional services

As part of the study, family caregivers were surveyed about their use of different support services, with a distinction being made between services aimed directly at caregivers (e.g., counselling services and caregiving courses, support groups for family caregivers, self-help groups) and services primarily directed at those in need of care (e.g., primary care physicians and physician specialists, ambulatory care services, inpatient and semi-inpatient care facilities, and meals on wheels). The following paragraphs examine the types of support services used by caregivers, which can help ease their burden of care. Looking solely at services specifically for family caregivers, we notice that the overall level of use of this type of services is very low. 78% do not make use of any of these services at all, just about 12% use at least one service, and only a small portion (approximately 10%) use two services or more (see Figure 1).

Even though certain assistance and services are aimed primarily at those in need of care (e.g., outpatient care services or semi-inpatient facilities), it can be assumed that this type of services also directly or at least indirectly eases the burden of caregivers. Figure 2 presents the results for the use of both types of services – that is, both services specifically aimed at caregivers and services whose main target group is those in need of care.

Even after expanding the range of potential services by services primarily addressing the dependent elderly, nearly a half of the surveyed caregivers still were not

found to make use of any (professional) support services. While only one-third of those surveyed were now found to use one service, approximately one-fourth were found to take advantage of two services or more (see Figure 2). The support services reportedly used by family caregivers can be broken down in the following areas (multiple responses possible):

- Ambulatory care: 26%
- Household help: 11%
- Meals on wheels: 11%
- Medical counselling: 8%
- Counselling on social laws: 6%
- Advisory centres, adult day care centres, and private in-home caregivers/nurses: each 4%
- Support groups for family caregivers and Internet-based information: each 3%
- Self-help groups, caregiving courses, assistance services and home visits by social service providers: each 2%

## Services use by dependent care level

Family caregivers may be in need of support when their responsibilities become too great and physically demanding. Their use of assistance or support services is presumed to vary depending on the level of care needed by their dependents since a greater need of care increases the likelihood that long-term care insurance benefits in kind will be used. 58% of all family caregivers surveyed are caring for a relative who is collecting long-term care

**Table 3: Use of professional services by care level of the caregivers' dependents (only dependents collecting long-term care insurance benefits, n=579,  $\chi^2=1.77$ ,  $df=2$ ,  $p=0.413$ )**

| Use of professional services | CL 1<br>(n=193, 33.3%) | CL 2<br>(n=240, 41.5%) | CL 3<br>(n=193, 25.2%) | Total<br>(N=579, 100%) |
|------------------------------|------------------------|------------------------|------------------------|------------------------|
| Yes                          | 67.4%                  | 65.4%                  | 71.9%                  | 67.7 %                 |
| No                           | 32.6%                  | 34.6%                  | 28.1%                  | 32.3 %                 |
| Total                        | 100%                   | 100%                   | 100%                   | 100%                   |

insurance benefits. Whereas a good two-thirds of these caregivers (68%) make use of professional support services, the other one-third do not use any such services (see Table 3). No significant differences in support services use were found by care level (CL) of the care recipients ( $\chi^2$  test). Among the care recipients receiving long-term care insurance benefits, one-third had been classified into CL 1, about 42% into CL 2 and 25% into CL 3. As evidenced by these results, dependent care level and associated degree of need of care do not have a significant impact on professional services use.

### Factors influencing services use

The regression analyses (with the listed variables in Table 1) reveals that subjectively assessed need of assistance and support, subjectively perceived caregiver burden, and caregiver education level have a particularly strong influence on the use of support services by caregivers (see Table 4).

The results of the regression analyses show that, regarding socio-demographic factors, the caregivers' gender ( $\beta = -0.242$ ;  $p < 0.05$ ) and high educational level ( $\beta = 0.409$ ;  $p < 0.001$ ) have the highest impact on service utilisation, followed by the self-assessed need of assistance and support ( $\beta = 0.226$ ,  $p < 0.001$ ). The time spent on caregiving per week and the duration of caregiving both have very weak, but still significant impacts on service usage. Neither number of work hours per week nor restrictions in employment due to caregiving responsibilities have a significant influence on the use of support services. Furthermore, also the age of the family carer does not show any significant effect on service utilization.

### Services use, care coordination, and gender

Figure 3 illustrates the differences in the way employed female and male caregivers of elderly dependents manage and coordinate care by engaging sources of professional and informal support to help with physical and personal care tasks (ADL tasks such as washing, dressing, eating, toileting, etc.). Caregivers of those with little or hardly any need for assistance with personal care tasks are not included in the figure.

A comparison of male and female caregivers shows that informal helpers are used significantly more by men than by women. Whereas over 40% of the employed caregiving men rely additionally or exclusively on assistance from the informal network (i.e., other relatives, friends, close acquaintances, neighbours, etc.), only 25% of the women do the same. This picture changes, however, when it comes to support provided by caregivers themselves. While nearly 90% of women are the ones helping those in need of assistance with ADLs, less than three-quarters of men provide support with such tasks. The prevalence of use of professional services is about the same for both men and women. In both groups, approximately 40% of caregivers turned additionally or exclusively to professional services for help.

### Discussion

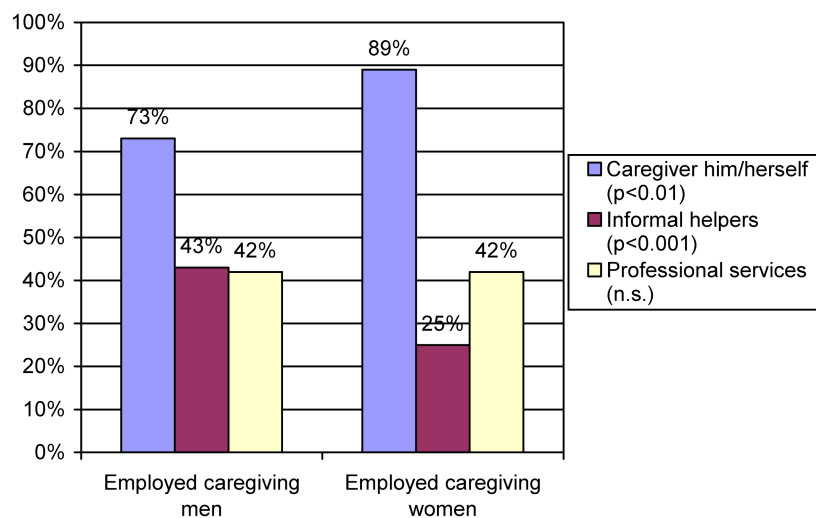
Family caregiving, especially provided by women, is still the predominant source of care for the elderly. Use of support services aimed directly at family caregivers is very low. According to Brodaty et al. [37] this is even true if services are known to the caregiver. After including certain services aimed primarily at those in need of care but also often serving as a source of relief for family caregivers, the percentage of caregivers using support services increased slightly. Among sociodemographic characteristics, we found *enabling* and *predisposing* factors, as defined by the Andersen model, as predictors for service use. Caregiver gender and education level have the greatest influence on services use in the way that men and the better educated are using support services a bit more often than women or lower educated family carers. However, need factors prove as even slightly more influential predictors. These include caregivers' subjective perception of their caregiving burden and subjective assessment of their dependents' need for assistance and support. The length of time in which care has been provided and the overall time which is spent on providing care each week also have an impact on the use of support services.

According to the education level of family caregivers, it seems that better educated caregivers can easier access services due to better information about available help. An increase of service usage also among less educated family caregivers can be assumed when the accessibility

**Table 4: The influence of different factors on the use of professional support services (total number of services used) by family caregivers (linear regression, standardised beta coefficients, n=864)**

| Variables   | Regression coefficient B | Standardised beta coefficients | Significance | 95% confidence intervals for B |
|---|--------------------------|--------------------------------|--------------|--------------------------------|
| (Intercept)   | -0.402                   |                                |              | -0.742 – -0,062                |
| Gender of the caregiver (0=male, 1=female)  | -0.242                   | -0.081                         | 0.011        | -0.428 – -0.055                |
| High level of education attained by the caregiver                                   | 0.409                    | 0.124                          | 0.000        | 0.202 – 0.616                  |
| Subjectively perceived burden (COPE Index, higher score=heavier burden)             | 0.051                    | 0.153                          | 0.000        | 0.029 – 0.073                  |
| Care recipient's need of assistance and support (higher score=greater need of care) | 0.226                    | 0.168                          | 0.000        | 0.130 – 0.322                  |
| Time spent on caregiving per week   | 0.002                    | 0.095                          | 0.000        | 0.001 – 0.004                  |
| Length of caregiving (in months)  | 0.002                    | 0.077                          | 0.020        | 0.000 – 0.004                  |
| <i>Excluded non-significant variables</i>   |                          |                                |              |                                |
| Age of the caregiver  | 0.058                    | 0.078                          | 0.340        |                                |
| Subjectively perceived positive effects of caregiving                               | 0.026                    | 0.031                          | 0.387        |                                |
| Caregiver work hours per week   | 0.025                    | 0.048                          | 0.178        |                                |
| Restrictions in employment  | 0.015                    | 0.023                          | 0.486        |                                |
| Mid level of education attained by the caregiver                                    | 0.142                    | 0.055                          | 0.173        |                                |
| Low level of education attained by the caregiver                                    | -0.219                   | 0.070                          | 0.250        |                                |

Model summary: R=0.373; R<sup>2</sup>=0.139; Adj. R<sup>2</sup>=0.133; Std. Err. of Est.=1.174

**Figure 3: Who helps the elderly dependents to complete assistance with ADLs? (in %, n=480 persons, multiple responses possible (answers ≥480), Pearson's chi<sup>2</sup> test)**



towards available information and support services are more low-threshold. In addition, not only the availability of support services but also their advantages and benefits for the affected caregivers must be emphasized to increase the motivation of service utilization.

The "work hours" and "restrictions in employment" variables have no significant influence on the use of support services. Also, the receipt of long-term care insurance benefits played only a limited role in services use. We would have expected that employed caregivers, in particular, experience a greater level of burden since they have to balance both career and caregiving responsibilities. In our hypothesis this should lead to a higher use of "disburdening" services, at least for the simple reason to cover the caring needs in times where the family caregiver is on his or her job. These contrary results of the regression analyses then lead us to the question how the *employed* family caregivers coordinate care and whether men and women do this differently. For example, do women tend to feel more obligated to do a good job in their role as caregivers and, as a result, come to expect that they should undertake most of the caregiving tasks themselves? Do men, on the other hand, tend to try and delegate these tasks so as to limit the amount of time spent on caregiving and with it any consequent restrictions in employment?

The results of a study by Mnich and Kohler [38] point in this direction. They found that family caregivers who limit or forego their work because of the care situation or who are no longer gainfully employed for other reasons are particularly more likely to compensate for financial losses using cash benefits collected from long-term care insurance, regardless of their dependents' level of need for care. In these cases, in particular, caregivers are much less likely to use professional support services to relieve their burden of care. Instead, there is a greater tendency to make use of cash allowances for care received by their dependents from long-term care insurance. To put it in a nutshell: those who have to stay at home anyways make use of this opportunity for additional income; those who can continue to work without any restrictions in their employment do not feel as motivated to do so.

Examination of the group of working-age family caregivers shows that men coordinate at-home care differently than women. They make use of informal helpers far more often than women. One possible explanation for this is that men only tend to take on the role of caregiver when they find support within their family network [39], [40], [41]. It seems that men delegate care tasks ("hands-on care") more often than women and tend to concentrate more on the organizational tasks for supporting care. Most caregiving women are between the ages of 45 and 75, while most men do not become caregivers until they are more advanced in age [42]. Also, considering that men do not feel as burdened if they do not fulfil the role of caregiver, it can be assumed that they are more willing to use and accept outside support with caregiving tasks [43]. Women, however, generally take on more care tasks by themselves, receive less support from their profession-

al and informal networks and do not like to make use of additional support. In doing so, whether they want to or not, they are following the traditional gendered division of roles, which continues to assign women the responsibility of caring for the family and home.

The results show that we don't find "typical" care settings where general recommendations to support family caregivers can be applied. However, since female caregivers are more likely to not being supported by professional help, measures like counselling should be developed to increase the knowledge of services on offer or making the use of support services more attractive. Other ways to improve service utilisation and to disburden especially female caregivers might be a better adaptation of support services to specific caregivers' needs. General practitioners, who usually have often contact to both caregivers and their dependent elderly, should be encouraged to point out to available counselling, training and support services.

## Notes

### Competing interests

The authors declare that they have no competing interests.

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